

STATEMENT OF WORK
GRADE STABILIZATION STRUCTURE (410)
Wyoming

These deliverables apply to this individual practice. For practice deliverables for other planned practices, refer to those specific Statements of Work.

Items that are marked **(TSP or Non-NRCS Engineer)** need to be completed only if design is provided by a TSP or Non-NRCS Engineer. Items that are marked **(NRCS Employee)** need to be completed only if design is provided by an NRCS Employee. All other items are required by all designers.

DESIGN

Deliverables and Documentation Requirements:

1. Design survey and investigations
 - a. Topographic survey of channel area, pool area, embankment area, and auxiliary spillway area as appropriate.
 - b. Profile along centerline of channel, dam and auxiliary spillway as appropriate.
 - c. Profile and alignment of conduits and principal spillway if needed.
 - d. Cross sections on channel, dam and auxiliary spillway centerline.
 - e. Basin topography to the extent needed for design.
 - f. Foundation and soils investigation.
 - g. Drainage area.
 - h. Possible borrow area.
2. Provide design documentation demonstrating compliance with the criteria in NRCS practice standard and compatibility with other planned and applied practices.
 - a. Identify practice purpose(s) in accordance with the conservation plan
 - b. Provide a list of required permits to be obtained by the client
 - c. Verify with the Field Office conservation planner that all concerns under the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) have been adequately addressed.
 - d. Assure compliance with NRCS national and state utility safety policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.0 through 503.6)
 - e. Provide practice standard criteria related computations and analyses to develop plans and specifications including but not limited to:
 - i. Hazard Class (NEM Part 520; Subpart C-Dams)
 - ii. Geology and Soil Mechanics (NEM Part 531-Geology;NEM Part 533 – Soil Engineering)
 - iii. Hydrology/Hydraulics (NEM Part 530-Hydrology)
 - iv. Structural (NEM Part 536-Structural Design)
 - v. Sediment yield computation
 - vi. Vegetation
 - vii. Environmental Considerations
 - viii. Safety Considerations (NEM Part 503-Safety, Subpart A, 503.10 through 503.12)
3. Provide written plans and specifications, including sketches and drawings, to the client that adequately describes the requirements to install the practice and obtain necessary permits including but not limited to:
 - a. Plan view of the layout of the pond showing location and stationing of the embankment, channel, pool area, and location and stationing of the auxiliary spillway as appropriate.
 - b. Location map with legal description and north arrow.
 - c. Typical profiles and cross sections of the grade stabilization structure and appurtenant features as needed.
 - d. Structural drawings as needed.
 - e. Profile along centerline of principal spillway and drawdown conduit as needed.
 - f. Conduit location, size, type of pipe, and grade as needed.
 - g. Location, dimensions, and gradation requirements of filter diaphragm as needed.
 - h. Stage storage data as needed.
 - i. Spillway hydraulics as needed.
 - j. Table of quantities.
 - k. Cut off trench details and/or special foundation treatment as needed.
 - l. Foundation drain layout, details, and drainfill gradation as needed.
 - m. Special requirements for diverting water, dewatering, and keeping the work area dry as needed.
 - n. Borrow area location(s) as needed.
 - o. Fill material and compaction requirements as needed.

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- p. Cooperator's signature of review and acceptance to construct the grade stabilization structure according to the plans and specifications.
4. Provide Design Report and Quality Assurance Plan as appropriate (NEM Part 511, Subpart B Documentation, 511.11 and Part 512-Construction, Subpart D-Quality Assurance Activities, 512.30 through 512.32).
 5. Provide Operation and Maintenance Plan
 6. Provide certification that the design meets practice standard criteria and complies with applicable laws and regulations (NEM Part 505 – Non-NRCS Engineering Services, Subpart A – Introduction, - 505.0 and 505.3).
(TSP or Non-NRCS Engineer)
 7. Engineering job classification is shown and proper engineering approval is obtained. **(NRCS Employee)**
 8. Provide design modifications during installation as required.

INSTALLATION

Deliverables and Documentation Requirements

1. Conduct a pre Installation conference with client and contractor.
2. Verify that client has obtained required permits.
3. Stake and layout the practice according to plans and specifications, including applicable layout notes.
 - a. Centerline and slope stakes for structures, embankment ponds and auxiliary spillway.
 - b. Grade and alignment stakes for conduits and principal spillway as needed.
 - c. Slope stakes for cutoff trench and drains as needed.
 - d. Verify with the Field Office conservation planner that the location of the staked practice is within the original scope of the practice and is still in compliance with the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA).
4. Provide quality assurance of installation (according to Quality Assurance plan as appropriate).
 - a. Actual materials used (Part 512, Subchapter D Quality Assurance Activities, 512.33)
 - b. Quality Assurance records
5. Facilitate and implement required design modifications with client and original designer
6. Advise client/NRCS on compliance issues with all federal, state, tribal, and local laws, regulations and NRCS policies during installation.
7. Provide certification that the installation process and materials meets design and permit requirements.

CHECK OUT

Deliverables and Documentation Requirements

1. Provide as-Built documentation.
 - a. Extent of practice units applied
 - b. Drawings
 - c. Final quantities
2. Provide certification that the installation meets NRCS standards and specifications and complies with permits (NEM Part 505 – Non-NRCS Engineering Services, Subpart A – Introduction, 505.3). **(TSP or Non-NRCS Engineer)**
3. Statement of compliance signed by NRCS personnel with applicable job approval authority that the work meets the plans and specifications. **(NRCS Employee)**
4. Report progress.

REFERENCES

- NRCS Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard - Grade Stabilization Structure, 410
- NRCS National Engineering Manual (NEM).
- NRCS Technical Release 60, Earth Dams and Reservoirs
- NRCS National Environmental Compliance Handbook
- NRCS Cultural Resources Handbook